



A complete guide to the
gluten-free
diet

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What is a gluten-free diet?

Following a gluten-free diet involves eliminating all gluten-containing foods and beverages. Gluten-containing grains, such as barley, rye, and wheat, are ingredients present in many staple foods included in the typical Western diet. On average, North Americans consume about 5 to 20 g of gluten per day, but for certain individuals, ingesting gluten may lead to gastrointestinal (GI) upset and damage to the GI tract.

What is gluten?

“Gluten” is the general term for a group of proteins that are found in certain grains, including barley, rye, and wheat. In nature, gluten proteins promote germination and seedling growth. In culinary applications, gluten is widely used to modify the quality, texture, flavor, and moisture content of foods.

Wheat is one of the most common sources of gluten, mainly consisting of the proteins glutenin and gliadin. Proteins similar in structure to gliadin have also been found to trigger gluten-related GI upset, including hordein in barley, secalin in rye, and avenin in oats.

Gluten-containing grains



Wheat



Rye



Barley

What are gluten-free products?

Baked goods made with wheat flour, such as breads and pastries, are well-known sources of gluten; however, gluten is also commonly used as an additive, often as a thickener or gelling agent, in processed foods including candies, dressings, sauces, meats, and vegetarian meat substitutes. Since gluten is ubiquitous in the food supply and consumer demand for gluten-free products has continued to grow, many brands now distinguish when their product is gluten-free. Gluten-free labeling is voluntary, but if a brand chooses to label its product as “gluten-free,” certain regulations must be followed.

The U.S. Food and Drug Administration (FDA) has set specific criteria in order to ensure that foods that are labeled as “gluten-free” are safe for consumption by those with gluten intolerances. According to the FDA, a gluten-free labeled food or beverage must have less than 20 ppm (parts per million) of gluten, the lowest consistently detectable amount. Gluten-free foods can be:

- Naturally gluten-free (e.g., apple, poultry)
- Made from a gluten-free grain (e.g., corn, rice)
- Made from a gluten-containing grain that has been processed to remove gluten (e.g., wheat starch)

Products labeled “free of gluten,” “no gluten,” and “without gluten” must also abide by the FDA’s criteria; however, claims such as “gluten-friendly,” “no gluten ingredients,” and “wheat-free” do not fall under the FDA’s ruling and, therefore, may not be gluten-free.



Gluten-related label claims

Claim	Meaning
Gluten-free	<p>Applies only to packaged foods</p> <p>Monitored by the FDA to have less than 20 ppm of gluten</p>
Gluten-friendly	<p>Often used in restaurants to describe a gluten-free menu item that was prepared in a kitchen that also uses gluten-containing foods</p> <p>No oversight to guarantee the product is gluten-free</p>
Wheat-free	<p>Not monitored by the FDA; however, all foods containing wheat must list wheat clearly on the ingredients label</p> <p>No guarantee the product is gluten-free</p> <p>May contain other gluten-containing grains (e.g., rye, barley)</p>
May contain gluten	<p>The food or product may contain traces of gluten</p> <p>Often found on products that are manufactured using shared equipment, increasing the possibility of cross-contamination</p>



Who should follow the gluten-free diet?

Certain health conditions warrant adherence to a gluten-free diet. Depending on the condition, a lifelong gluten-free diet may be necessary.

Celiac disease

Celiac disease, also known as celiac sprue or gluten-sensitive enteropathy, is a chronic, autoimmune condition in which the immune system abnormally responds to gluten resulting in damage to the small intestine. Common symptoms of celiac disease include abdominal pain, bloating, and diarrhea.

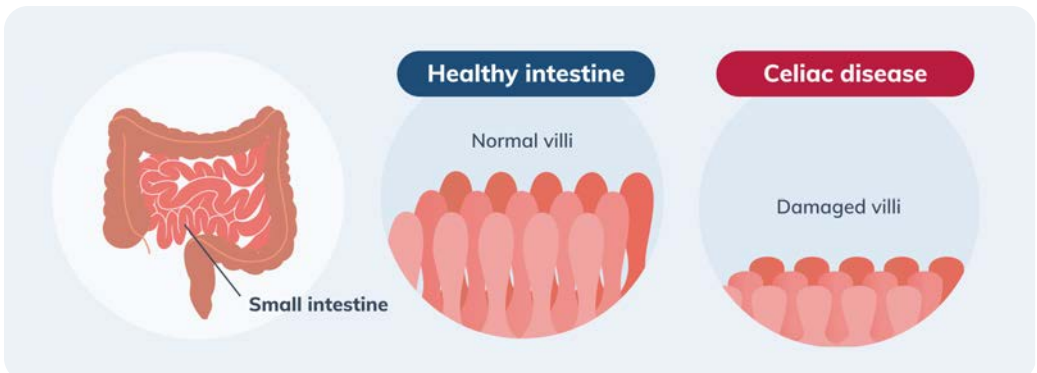
Patients with celiac disease must adopt a strict, lifelong gluten-free diet, as well as avoid all gluten-containing personal care products, supplements, and medications. Living gluten-free is necessary to reverse and avoid further damage to the small intestine, as well as mitigate some of the risks associated with long-term, unaddressed celiac disease. Research indicates that it takes approximately three to six months of following a gluten-free diet for the small intestine to heal in children.

For adults, this healing process can take approximately two to three years.

Did you know?

Celiac disease affects approximately 1% of the global population.

The small intestine is lined with tiny, finger-like structures called villi. The villi are responsible for facilitating nutrient absorption from food. In undiagnosed and/or unaddressed celiac disease, the villi become damaged and flattened, lessening their ability to absorb nutrients. This can lead to various negative health consequences such as nutrient deficiencies, certain cancers (e.g., intestinal cancer, intestinal lymphoma), infertility, neurological disorders, and osteoporosis.



Research suggests that individuals with celiac disease are more likely to be diagnosed with other autoimmune conditions, such as:

- **Addison's disease:** a condition affecting the functioning of the adrenal glands and hormone production
- **Autoimmune thyroid diseases:** Hashimoto's thyroiditis (a cause of hypothyroidism) and Grave's disease (a cause of hyperthyroidism)
- **Type 1 diabetes mellitus:** a condition that occurs when the pancreas produces little to no insulin
- **Dermatitis herpetiformis:** a chronic skin condition characterized by itchy bumps or blisters, particularly occurring on the forearms near the elbows, knees, and buttocks and worsened when gluten is ingested
- **Psoriasis:** a chronic skin condition that accelerates the growth cycle of skin cells, leading to thick red skin and silvery patches on the elbows, knees, scalp, face, hands, and feet
- **Rheumatoid arthritis:** a chronic inflammatory condition that causes swollen, painful joints
- **Systemic lupus erythematosus (lupus):** an autoimmune condition affecting various organs such as the skin, joints, kidneys, and brain

Similarly, individuals with these autoimmune conditions may be more likely to develop celiac disease. Implementation of a gluten-free diet may help slow the progression of these autoimmune conditions, especially if started at an early stage.



Gluten sensitivity and intolerance

Gluten sensitivity, sometimes referred to as gluten intolerance or non-celiac gluten sensitivity, is a disorder affecting an individual's ability to tolerate gluten. Gluten sensitivity is not well understood and researchers are actively investigating to gain a better understanding of this condition. Patients with a gluten sensitivity may experience similar signs and symptoms to celiac disease; however, consuming gluten while gluten sensitive doesn't appear to cause the same damaging effects to the small intestine or long-term health issues when ingested.

Wheat allergy

Wheat allergy is an allergic response to foods containing wheat. Wheat allergy is most common in children, and about 65% of children outgrow their allergy by adulthood; however, some people may continue to experience this condition into adulthood. Individuals with a wheat allergy don't necessarily need to follow a gluten-free diet, but should strictly follow a wheat-free diet. This means that they can still safely consume other gluten-containing foods such as rye and barley. If you have a wheat allergy, you should avoid wheat-containing foods as well as personal care products that contain wheat. In some cases, simply inhaling wheat flour can trigger an allergic response. Depending on the severity of the allergy, some patients may experience anaphylaxis, a severe, life-threatening allergic response, in response to allergen exposure, requiring immediate treatment with epinephrine (adrenaline) and medical attention.



A comparison of celiac disease, gluten sensitivity/intolerance, and wheat allergy

	Celiac disease	Gluten sensitivity/intolerance	Wheat allergy
Cause			
	Autoimmune response to gluten	Unknown response to gluten	Allergic response to wheat
Treatment			
	Strict, lifelong adherence to a gluten-free diet and avoidance of all personal care products, supplements, and medications containing gluten	Variable adherence to a gluten-free or wheat-free diet depending on severity of symptoms and sensitivity to certain foods	Strict adherence to a wheat-free diet Allergy may resolve in adulthood
Symptoms			
Abdominal pain, bloating, or gas	✓	✓	✓
Amenorrhea (missed menstrual period)	✓		
Anaphylaxis (severe allergic reaction)			✓
Anxiety or depression	✓	✓	
Bruising	✓		
Constipation	✓	✓	
Decreased appetite	✓		
Delayed growth or puberty in children and adolescents	✓		
Diarrhea	✓	✓	✓

	Celiac disease	Gluten sensitivity/ intolerance	Wheat allergy
Symptoms			
Fatigue	✓	✓	
Foul smelling, oily stools	✓		
Hair loss	✓		
Headache	✓	✓	✓
Indigestion	✓		
Itchy skin rash or hives	✓	✓	✓
Joint and muscle pain	✓		
Mouth ulcers	✓		
Nausea and/or vomiting	✓	✓	✓
Nose bleeds	✓		
Numbness or tingling in the hands and feet	✓		
Nutrient deficiencies due to malabsorption (e.g., iron, folate, vitamins A, B6, B12, D, E, and K, copper, and zinc)	✓		
Sneezing			✓
Stuffy or runny nose			✓
Unexplained weight loss	✓		

Gluten ataxia

Gluten ataxia is a term used to describe a set of neurological symptoms thought to be brought on by the consumption of gluten. Ataxia, or the loss of bodily control causing balance and coordination issues, results from damage to the cerebellum, the portion of the brain responsible for controlling coordination. Common symptoms of gluten ataxia include:

- Gait instability
- Loss of fine motor skills
- Poor coordination
- Speech issues
- Vision issues

Little is known about this rare immune-mediated disease, and diagnosis can be challenging given that there isn't a standard testing procedure. Ataxia may present itself in individuals with gluten sensitivity or celiac disease. Strict adherence to a gluten-free diet has been shown to be effective in individuals experiencing gluten ataxia.



Following a gluten-free diet

Adopting the gluten-free diet may require some adjustments to your typical diet. The gluten-free diet involves eliminating all foods that naturally contain gluten as well as those that contain gluten as an additive. It's important to always check the nutrition facts label on any product that is not labeled as gluten-free.

When following a gluten-free diet, focus on consuming an abundance of whole, unprocessed foods that are naturally gluten-free, such as fruits, vegetables, lean proteins, dairy, eggs, beans, legumes, nuts, and seeds. A list of foods and beverages to avoid and safe gluten-free alternatives can be found in the Appendix section of this guide.

Components of a healthy gluten-free diet



Gluten-free grains

The following table provides a list of gluten-containing and gluten-free grains and pseudograins.

Gluten-containing and gluten-free grains

Gluten-containing grains	Gluten-free grains and pseudograins
Barley	Amaranth
Bulgar	Buckwheat
Durum	Corn
Farro	Millet
Kamut	Oats*
Rye	Quinoa
Semolina	Rice
Spelt	Sorghum
Triticale	Teff
Wheat	

*Oats may contain traces of gluten and may not be tolerated by certain individuals.

Third-party certifications for gluten-free products

Though the FDA regulates products that claim to be gluten-free, they do not conduct quality control measures during the manufacturing process to ensure that a product meets the gluten-free standards. Instead, the FDA monitors products post market, mainly through periodic sampling and investigating reported consumer and industry concerns. Some manufacturers use a third-party certification process to regularly test the gluten content of their products in order to ensure they meet FDA standards.

Products certified by a third party may be preferred, as some third parties have stricter regulations than the FDA. For example, the Gluten Intolerance Group defines “gluten-free” as less than 10 ppm of gluten. Similarly, certification by the National Celiac Association ensures that all products contain less than 5 ppm. While research indicates that most people with a gluten intolerance can tolerate trace amounts of gluten (up to 20 ppm), certain individuals may benefit from a stricter criteria.

Precautions

A gluten-free diet is considered safe for most individuals; however, it's important to be aware of the various vitamins, minerals, and fiber found in gluten-containing grains that will need to be obtained through other dietary sources. Consider the following nutrients and dietary components when following a gluten-free diet.

Alternate sources of dietary components found in gluten-containing grains

Dietary component of concern	Dietary sources
Fiber	Gluten-free whole grains, fruits, vegetables, beans, legumes, nuts, seeds
Folate	Beans, legumes, asparagus, eggs, leafy greens
Iron	Soy, beans, legumes, dark leafy greens, beef, chicken, turkey, oysters
Niacin	Fish, beef, chicken, turkey, beans, legumes, nuts, seeds
Riboflavin	Eggs, organ meats, lean meats, milk, green vegetables (e.g., asparagus, broccoli, spinach)
Thiamin	Meat, poultry, pork, seafood, eggs, yogurt, beans, legumes, soy, nuts, seeds

It's also important to note that just because a food or beverage is gluten-free, that doesn't necessarily mean that it's a healthy choice. Many store-bought gluten-free products, such as cakes, cookies, and crackers, are highly processed and often contain just as much sodium, sugar, fat, and artificial ingredients as their gluten-containing alternatives.



Helpful tips

Always read product labels

When purchasing pre-packaged items from the grocery store, check the label for a “gluten-free” claim and third-party certifications. If you’re unsure if a product is gluten-free, examine the ingredient list for any gluten-containing grains or statements such as “manufactured on shared equipment.” For more information about reading ingredient labels, refer to the Appendix.

Avoid gluten-free junk food

It’s best to moderate or avoid consuming gluten-free processed foods such as gluten-free cookies and chips as they are often high in salt, sugar, processed oils, and artificial ingredients. When shopping for packaged foods, choose products with the simplest ingredients for the healthiest choices. Just like all processed foods, not all gluten-free processed foods are healthy options.

Be aware of cross-contamination

Cross-contamination occurs when gluten-free food comes into contact with gluten. This can happen during the manufacturing process if shared equipment is used, in a restaurant’s kitchen, or even in your own kitchen if other people in your household consume gluten.

To limit cross-contamination, store and prepare gluten-containing and gluten-free foods separately and clean food preparation areas, equipment, and utensils thoroughly before preparing gluten-free items. If gluten-containing and gluten-free foods are being prepared simultaneously, research indicates that a distance of at least 6 ft (2 m) may keep gluten contamination under 20 ppm.

Some foods that are naturally gluten-free are at a greater risk of cross-contamination during manufacturing. Purchase the following items labeled “gluten-free” whenever possible:

- Naturally gluten-free grains: Cross-contamination with gluten-containing grains can occur during harvest, storage, or transport.
- Beans and legumes: Lentils and other legumes are legally allowed to contain a certain percentage of foreign material, including gluten-containing grains.



Dine out safely on a gluten-free diet

Although dining out while following a strict gluten-free diet can sometimes be challenging, it is possible with some extra planning. With more individuals seeking gluten-free options, many restaurants offer gluten-free or gluten-friendly items.

Before visiting a restaurant, check the restaurant's menu online or call ahead to determine whether they provide gluten-free options. At the restaurant, explain your dietary restrictions to the server and clearly state the food(s) you must avoid. If following a strict gluten-free diet, make sure to explain that your meal must be prepared using separate cooking tools to limit the risk of cross-contamination. Don't be afraid to ask questions, especially about food preparation techniques and any sauces, seasonings, or breadings that may be added to your meal.

For more information about hidden sources of gluten, see the hidden gluten resource in the Appendix.

Remember that many foods are naturally gluten-free

If you're new to the gluten-free diet and you're feeling overwhelmed by all of the ingredients you need to avoid, keep in mind that most whole foods are naturally gluten-free. You can freely enjoy many foods, including fruits, vegetables, beans, legumes, gluten-free grains, nuts, seeds, meat, poultry, fish, seafood, eggs, and dairy products, as long as they are prepared without cross-contamination or added gluten-containing ingredients.

Watch out for non-food sources of gluten

Gluten isn't only found in foods; it can also be found in many products you use regularly such as medications, supplements, and personal care products (e.g., toothpaste, lip balm, lotion, soap, shampoo). When following a gluten-free diet, particularly if you have celiac disease or a wheat allergy, use extra caution and read product labels thoroughly to ensure that they're gluten-free.



Frequently asked questions (FAQ)

What does the term “gluten-free” mean?

The FDA defines “gluten-free” as a food or product that is naturally gluten-free, does not contain a gluten-containing ingredient, or contains a gluten-containing grain that has been processed to remove gluten. All products labeled “gluten-free” should contain less than 20 ppm of gluten, a level generally recognized as tolerable by individuals with gluten sensitivities.

Is wheat the same as gluten?

Gluten is a complex protein found in wheat grains and other gluten-containing grains such as barley and rye. A product claiming to be “wheat-free” doesn’t contain wheat; however, it potentially contains gluten, making it unsafe for individuals following a gluten-free diet to consume. Most foods containing wheat also contain gluten, but some wheat products are processed to remove gluten, such as wheat starch.

Is celiac disease the same as a wheat allergy?

Celiac disease is an autoimmune condition that causes damage to the small intestine when gluten is ingested, whereas a wheat allergy is an allergic response to wheat. Individuals with a wheat allergy may experience symptoms similar to celiac disease, but damage to the small intestine does not occur. Unlike celiac disease, many individuals outgrow a wheat allergy by adulthood.

How do I know if I should follow a gluten-free diet?

If you are experiencing symptoms of celiac disease or gluten sensitivity, it’s best to consult your integrative healthcare provider for appropriate testing and recommendations before adopting a gluten-free diet. Celiac disease cannot be diagnosed based on symptoms alone. Your practitioner may perform a physical exam, order a serum antibody blood test that identifies tissue transglutaminase IgA antibodies, and recommend an intestinal biopsy to determine whether intestinal damage is present.



Gluten sensitivity can be more challenging to diagnose. Your practitioner may order a blood test or food sensitivity test; however, these testing methods are not always accurate. In some cases, your practitioner may recommend that you follow an elimination diet to determine whether your symptoms are caused by gluten or another dietary offender.

How long should I follow the gluten-free diet?

Certain health conditions, such as celiac disease, require lifelong adoption of the gluten-free diet. For some individuals, however, following the gluten-free diet may be beneficial temporarily. Working with your integrative practitioner is the best way to understand how long you should follow the gluten-free diet.

Where's the best place to find gluten-free foods?

Naturally gluten-free foods as well as specialty gluten-free foods can be found in most grocery stores. Opting for naturally gluten-free foods is the most cost-effective way to enjoy a balanced gluten-free diet. Certain gluten-free grains can be purchased from local grocers, but some specialty or less common grains may need to be purchased from a health food market.

Can I eat at restaurants while following a gluten-free diet?

Yes! Many restaurants offer gluten-free menu items and are willing to accommodate your dietary restrictions. Dining out may require some additional planning ahead of time to ensure that the restaurant can safely prepare a meal for you.

A product says “may contain gluten” on its label. Can I safely eat it?

If you have celiac disease or you're highly sensitive to gluten, you should avoid products that “may contain gluten” as the product might have come in contact with gluten during the manufacturing process.

Are foods labeled “gluten-free” the only products I can consume safely?

Not necessarily. “Gluten-free” is a voluntary label claim, meaning that even if a product doesn't contain gluten, the manufacturer may or may not state that on the label. Choosing naturally gluten-free foods and reading the ingredients list is the best practice for identifying unspecified gluten-free products. Individuals with concerns about gluten contamination should check with their integrative practitioner about selecting foods that are gluten-free.





Appendix:

Gluten-free diet resources

Grocery shopping list

The following list includes foods that can help you remain compliant with the gluten-free diet. This list can be printed and used as a resource when shopping.

Vegetables

- Artichoke
- Asparagus
- Beets
- Bok choy
- Broccoli
- Brussels sprouts
- Cabbage
- Carrots
- Cauliflower
- Celery
- Chard
- Collards
- Cucumbers
- Endives
- Fennel
- Garlic
- Green beans
- Kale
- Leek
- Okra
- Onion
- Oyster mushrooms
- Parsnips
- Peas
- Pumpkin
- Radishes
- Shiitake mushrooms
- Sweet potatoes
- Turnips, turnip greens
- Watercress
- White button mushrooms
- Yams
- Zucchini

Fruits

- Apples
- Bananas
- Bell peppers
- Blueberries
- Goji berries
- Grapefruit
- Grapes
- Kiwi
- Lemon
- Melon
- Orange
- Raspberries
- Strawberries
- Tomatoes

Grains and pseudograins

- Amaranth
- Brown rice
- Buckwheat
- Corn tortillas
- Gluten-free bread
- Oats*
- Quinoa
- Sorghum
- Teff
- Wild rice

Gluten-free flours

- All-purpose gluten-free flour
- Almond flour or meal
- Buckwheat flour
- Chickpea flour
- Coconut flour
- Millet flour
- Oat flour*
- Rice flour
- Sorghum flour

Gluten-free pasta

- Grain-based pasta (e.g., brown rice, corn, cassava, quinoa)
- Legume-based pasta (e.g., chickpea, lentil)

Beans and legumes

- Adzuki beans
- Black beans
- Black-eyed peas
- Fava beans
- Chickpeas (garbanzo beans)
- Kidney beans.
- Lentils
- Peanuts
- Pinto beans
- Soybeans
- Split peas
- Tofu

Nuts and seeds

- Almonds
- Brazil nuts
- Cashews
- Chia seeds
- Flaxseeds
- Hazelnuts
- Macadamia nuts
- Pumpkin seeds
- Spinach
- Sunflower seeds
- Walnuts

Meat, eggs, fish, and shellfish

- Beef, beef liver
- Chicken
- Eggs
- Crab*
- Herring
- Lobster
- Mackerel
- Oyster
- Pork
- Salmon
- Sardines
- Swordfish
- Tuna
- Trout

Oils

- Cod liver oil
- Extra-virgin avocado oil
- Extra-virgin olive oil
- Virgin coconut oil

Sweeteners

- Coconut sugar
- Honey (raw/unpasteurized)
- Monk fruit
- Pure maple syrup
- Purified stevia extract
- Stevia

Fermented foods

- Kefir
- Kimchi
- Kombucha
- Miso
- Pickled vegetables (unpasteurized)
- Sauerkraut
- Tempeh*
- Yogurt

Herbs and spices (fresh or dried)

- Anise
- Basil
- Black pepper
- Caraway
- Cayenne pepper
- Cinnamon
- Clove
- Cumin
- Fenugreek
- Garlic
- Ginger
- Mint
- Oregano
- Peppermint
- Rosemary
- Sage
- Thyme
- Turmeric

Teas

- Chamomile
- Dandelion root
- Ginger
- Green tea
- Lavender
- Nettle
- Oolong tea
- Peppermint
- Rooibos
- Thistle
- Turmeric
- White tea

Vinegars

- Apple cider vinegar
- Balsamic vinegar
- Red wine vinegar
- Rice wine vinegar
- White wine vinegar

Condiments*

- Coconut aminos
- Guacamole
- Hot sauce
- Hummus
- Ketchup
- Jam and jelly
- Mustard (dijon, whole grain, yellow)
- Salad dressings
- Salsa
- Sriracha chili sauce
- Tamari

*Indicates a product that may not be gluten-free depending on its added ingredients and how it was processed. Always confirm the ingredients on food labels before purchasing or consuming.

Gluten-free alternatives

Beginning a gluten-free diet may seem challenging and restrictive at first; however, there are gluten-free alternatives for many of your favorite foods.

Simple gluten-free swaps

Swap this

All-purpose flour



Breaded or battered chicken



Couscous



Flour tortillas



Orzo



Pasta



Salad dressings



Soy sauce



Wheat crackers



Whole wheat bread



For that

Almond or oat flour
All-purpose
gluten-free flour



Baked or
grilled chicken



Quinoa



Corn tortillas



Brown rice



Rice or
chickpea pasta



Simple homemade
vinaigrettes



Tamari or
coconut aminos



Rice crackers



Gluten-free bread



Gluten-free alternatives foods

	Foods to avoid*	Gluten-free alternatives
Fruits	Fruit juices and smoothies that contain wheatgrass or barley grass	Plain fruit (fresh or frozen) Plain fruit juices
Vegetables	Battered, fried vegetables Fried potatoes cooked in shared oil Pre-seasoned vegetables Vegetables in sauces	Plain vegetables (fresh or frozen) Plain vegetable juices
Dairy and dairy alternatives	Malted milk Oat milk, unless gluten-free Seasoned dips, spreads, and cheeses Seasoned or flavored egg products	All plain dairy products (e.g., cheese, milk, ice cream, yogurt) Most non-dairy milk substitutes (e.g., coconut, rice, soy) Dairy-free cheese, ice cream, and yogurt Plain whole eggs, egg whites, or egg products
Grains, pseudograins, and starches	Breads, cereals, pastas, and pastries made with barley, rye, or wheat Chips or crackers made with wheat or malt vinegar Flour tortillas Matzo Pizza dough Seasoned rice mixes Tabbouleh and couscous	Gluten-free breads, cereals, pastas, and pastries Gluten-free flours and grains Gluten-free tortillas Gluten-free pizza dough Corn and corn products (e.g., popcorn, corn chips, corn tortillas) Rice and rice products (e.g., plain rice, rice crackers) Quinoa
Meats and meat alternatives	Meat, poultry, fish, and seafood breaded in gluten-containing ingredients Most processed meats, sausages, and spreads Plant-based meat substitutes Pre-seasoned meat products Frozen poultry injected with hydrolyzed wheat protein Canned fish or seafood containing hydrolyzed wheat protein Canned beans in sauce	Plain or gluten-free breaded meat, poultry, fish, and seafood Plain beans and legumes Plain tofu
Nuts and seeds	Seasoned or dry roasted nuts and seeds	Plain or salted nuts, nut butters, and seeds
Condiments and other	Brewers yeast Dressings, sauces, and gravies made with wheat ingredients (e.g., barbeque sauce, miso, soy sauce) Licorice candy Malt vinegar Tempura	Gluten-free chocolates and candies Gluten-free dressings, sauces, and gravies Oils Vinegars (e.g., apple cider, balsamic) Yeast (e.g., active dry, baker's)

*Unless labeled gluten-free

Reading nutrition facts labels

The sample Nutrition Facts label below demonstrates how to read a food label and identify food allergens.



Reading nutrition facts labels

Nutrition Facts	
8 servings per container	
Serving Size 2 oz (56g)	
Amount per serving	
Calories	200
% Daily Value*	
Total Fat 1g	2%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 0mg	0%
Total Carbohydrate 42g	14%
Dietary Fiber 2g	
Total Sugars 2g	
Includes 0g Added Sugars	0%
Protein 7g	
Vitamin D	0%
Calcium	0%
Iron	10%
Potassium	5%
*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a healthy diet. 2,000 calories a day is used for general nutrition advice.	

Serving Size: Indicates the number of servings per container and the individual serving size

Calories: Shows the number of calories provided in a single serving

Amount per serving: Nutrients with an established daily requirement will show the amount in both weight and % daily value to help you understand how you're achieving your dietary requirements

Daily Values: Reflects the percentage of daily nutrient requirement provided in a single serving (5% or less is low, 20% or more is high)

Total Sugars: Indicates the amount of both naturally-occurring and added sugar present in a single serving

Added Sugars: Indicates the amount of sugar from added sources in a single serving

Lists the nutrients that are generally low in current diets to help you consume enough

INGREDIENTS: SEMOLINA (WHEAT), DURUM WHEAT FLOUR, NIACIN, IRON (FERROUS SULFATE), THIAMINE MONONITRATE, RIBOFLAVIN, FOLIC ACID.

Ingredients are listed in order of predominance.

CONTAINS: WHEAT.

Allergens are listed at the bottom of the label.

Hidden sources of gluten

Checking the ingredients label is the simplest way to recognize a gluten-free product. Don't see wheat, barley, or rye? Gluten could be in the ingredients list under a different name. Below are common gluten-containing ingredients.

- Bread crumbs
- Brewer's yeast
- Bulgur
- Cereal extract
- Club wheat
- Couscous
- Cracker meal
- Durum
- Einkorn
- Emmer
- Farina
- Farro
- Flour (all-purpose, bread, cake, high-gluten, high-protein, instant, pastry, self-rising, soft wheat, steel ground, stone ground, whole wheat)
- Freekeh
- Graham
- Hydrolyzed wheat protein
- Kamut
- Malt (malt extract, malt flavoring, malt syrup, malt vinegar)
- Seitan
- Semolina
- Spelt
- Sprouted wheat
- Starch (gelatinized starch, modified starch, modified food starch, vegetable starch)
- Triticale
- Vegetable protein
- Vital wheat gluten
- Wheat berries
- Wheat bran hydrolysate
- Wheat germ oil
- Wheat grass
- Wheat protein isolate





Alcohol

Ales, beers, lagers, and malt beverages are not gluten-free unless specified.



Art supplies

Some paints and other supplies, such as Play-Doh, contain wheat.



Soups

Cream-based soups often use flour as a thickener, while other soups may contain barley.



Additional sources of gluten



Personal care products

Gluten is sometimes used in cosmetics and body care products for binding and moisture.



Processed meats

Deli meats, sausages, and other processed meats may contain gluten as an additive or filler.



Condiments and seasonings

Gluten-containing starch and dextrin may be used as fillers and thickeners.



Medicines and nutritional supplements

Wheat starch may be used as an excipient (inactive ingredient).

Helpful apps

An online app can be a useful tool for following a gluten-free diet. Various apps can help you find restaurants offering gluten-free options, identify gluten-free foods at the store, and allow you to track your symptoms. Examples of available apps include:

- AllergyEats ([web](#), [App Store](#), [Google Play](#))
- Eat! Gluten-Free ([App Store](#), [Google Play](#))
- The Gluten Free Scanner ([App Store](#), [Google Play](#))
- Find Me Gluten Free ([web](#), [App Store](#), [Google Play](#))
- mySymptoms Food Diary ([App Store](#), [Google Play](#))
- Gluten Free Restaurant Cards ([App Store](#))



References

1. Allergist. (2015). *Wheat allergy*. <https://acaai.org/allergies/types/food-allergies/types-food-allergy/wheat-gluten-allergy>
2. Barnett, J., Muncer, K., Leftwich, J., Shepherd, R., Raats, M. M., Gowland, M. H., Grimshaw, K., & Lucas, J. S. (2011). Using “may contain” labelling to inform food choice: A qualitative study of nut allergic consumers. *BMC Public Health*, 11, 734.
3. Biesiekierski, J. R. (2017). What is gluten? *Journal of Gastroenterology and Hepatology*, 32 Suppl 1, 78–81.
4. Canadian Celiac Association and Dietitians of Canada. (2018). *Gluten free eating*. <https://www.celiac.ca/wp-content/uploads/2018/05/Gluten-Free-Eating-PEN.pdf>
5. CDC. (2020). *Psoriasis*. <https://www.cdc.gov/psoriasis/index.htm>
6. CDC. (2020). *Rheumatoid Arthritis (RA)*. <https://www.cdc.gov/arthritis/basics/rheumatoid-arthritis.html>
7. CDC. (2021). *What is type 1 diabetes?* <https://www.cdc.gov/diabetes/basics/what-is-type-1-diabetes.html>
8. Celiac Disease Foundation. (n.d.). *Celiac disease screening*. <https://celiac.org/about-celiac-disease/screening-and-diagnosis/screening>
9. Celiac Disease Foundation. (n.d.). *Gluten in medicine, vitamins & supplements*. <https://celiac.org/gluten-free-living/gluten-in-medicine-vitamins-and-supplements/>
10. Celiac Disease Foundation. (n.d.). *Gluten-free foods*. <https://celiac.org/gluten-free-living/gluten-free-foods/>
11. Celiac Disease Foundation. (n.d.). *Sources of gluten*. <https://celiac.org/gluten-free-living/what-is-gluten/sources-of-gluten/>
12. El Khoury, D., Balfour-Ducharme, S., & Joye, I. J. (2018). A review on the gluten-free diet: Technological and nutritional challenges. *Nutrients*, 10(10).
13. Fasano, A., Sapone, A., Zavallos, V., & Schuppan, D. (2015). Nonceliac gluten sensitivity. *Gastroenterology*, 148(6), 1195–1204.
14. Food Allergy Research & Education. (n.d.). *Wheat allergy 101*. <https://www.foodallergy.org/living-food-allergies/food-allergy-essentials/common-allergens/wheat>
15. Gluten Free Certification Organization. (2021). *GFCO manual*. <https://gfc.org/wp-content/uploads/2021/01/GFCO-Manual-2021.pdf>
16. Gujral, N., Freeman, H. J., & Thomson, A. B. R. (2012). Celiac disease: Prevalence, diagnosis, pathogenesis and treatment. *World Journal of Gastroenterology: WJG*, 18(42), 6036–6059.
17. Hadjivassiliou, M., Davies-Jones, G. A. B., Sanders, D. S., & Grünewald, R. A. (2003). Dietary treatment of gluten ataxia. *Journal of Neurology, Neurosurgery, and Psychiatry*, 74(9), 1221–1224.
18. Hadjivassiliou, M., Grünewald, R., Sharrack, B., Sanders, D., Lobo, A., Williamson, C., Woodroffe, N., ... & Davies-Jones, A. (2003). Gluten ataxia in perspective: Epidemiology, genetic susceptibility and clinical characteristics. *Brain: A Journal of Neurology*, 126(Pt 3), 685–691.
19. Herman, P. M., & Drost, L. M. (2004). Evaluating the clinical relevance of food sensitivity tests: A single subject experiment. *Alternative Medicine Review: A Journal of Clinical Therapeutic*, 9(2), 198–207.
20. Jones, A. L. (2017). The gluten-free diet: Fad or necessity? *Diabetes Spectrum: A Publication of the American Diabetes Association*, 30(2), 118–123.
21. Lauret, E., & Rodrigo, L. (2013). Celiac disease and autoimmune-associated conditions. *BioMed Research International*, 2013, 127589.
22. Lerner, A., Ramesh, A., & Matthias, T. (2018). Going gluten free in non-celiac autoimmune diseases: The missing ingredient. *Expert Review of Clinical Immunology*, 14(11), 873–875.

23. Mearns, E. S., Taylor, A., Thomas Craig, K. J., Puglielli, S., Leffler, D. A., Sanders, D. S., Lebowitz, B., & Hadjivassiliou, M. (2019). Neurological manifestations of neuropathy and ataxia in celiac disease: A systematic review. *Nutrients*, 11(2).
24. National Celiac Association. (n.d.). *Gluten-free recognition seal program*. <https://nationalceliac.org/resources/gluten-free-recognition-seal-program/>
25. National Institutes of Health. (2015). *Celiac disease*. Genetic and Rare Disease Information Center. <https://rarediseases.info.nih.gov/diseases/11998/ceeliac-disease/cases/50559>
26. National Institutes of Health. (2017). *Autoimmune Addison disease*. MedlinePlus. <https://medlineplus.gov/genetics/condition/autoimmune-addison-disease/>
27. National Institutes of Health. (2019). *Dermatitis herpetiformis*. MedlinePlus. <https://medlineplus.gov/ency/article/001480.htm>
28. National Institutes of Health. (2020). *Celiac disease*. MedlinePlus. <https://medlineplus.gov/ency/imagepages/19939.htm>
29. National Institutes of Health. (2020). *Celiac disease - sprue*. MedlinePlus. <https://medlineplus.gov/ency/article/000233.htm>
30. National Institutes of Health. (2020). *Eating, diet, & nutrition for celiac disease*. <https://www.niddk.nih.gov/health-information/digestive-diseases/ceeliac-disease/eating-diet-nutrition>
31. National Institutes of Health. (2020). *Learn about gluten-free diets*. MedlinePlus. <https://medlineplus.gov/ency/patientinstructions/000813.htm>
32. National Institutes of Health. (2020). *Systemic lupus erythematosus*. MedlinePlus. <https://medlineplus.gov/ency/article/000435.htm>
33. Parzanese, I., Qehajaj, D., Patricicola, F., Aralica, M., Chiriva-Internati, M., Stifter, S., Elli, L., & Grizzi, F. (2017). Celiac disease: From pathophysiology to treatment. *World Journal of Gastrointestinal Pathophysiology*, 8(2), 27–38.
34. Roszkowska, A., Pawlicka, M., Mroczek, A., Bałabuszek, K., & Nieradko-Iwanicka, B. (2019). Non-celiac gluten sensitivity: A review. *Medicina*, 55(6).
35. Saturni, L., Ferretti, G., & Bacchetti, T. (2010). The gluten-free diet: Safety and nutritional quality. *Nutrients*, 2(1), 16–34.
36. Schuppan, D., & Zimmer, K.-P. (2013). The diagnosis and treatment of celiac disease. *Deutsches Arzteblatt International*, 110(49), 835–846.
37. Shewry, P. (2019). What is gluten-Why is it special? *Frontiers in Nutrition*, 6, 101.
38. Studerus, D., Hampe, E. I., Fahrer, D., Wilhelm, M., & Vavricka, S. R. (2018). Cross-contamination with gluten by using kitchen utensils: Fact or fiction? *Journal of Food Protection*, 81(10), 1679–1684.
39. U.S. Center for Food Safety. (2020). *Questions and answers on the gluten-free food labeling final rule*. <https://www.fda.gov/food/food-labeling-nutrition/questions-and-answers-gluten-free-food-labeling-final-rule>
40. U.S. Department of Agriculture. (2017). *U.S. standards for lentils*. <https://www.gipsa.usda.gov/fgis/standards/lentils.pdf>
41. U.S. Department of Agriculture. (2018). *Nutrient lists from standard reference legacy*. <https://www.nal.usda.gov/fnic/nutrient-lists-standard-reference-legacy-2018>
42. U.S. Food and Drug Administration. (2021). *“Gluten-free” means what it says*. <https://www.fda.gov/consumers/consumer-updates/gluten-free-means-what-it-says>
43. Whole Grains Council. (n.d.). *Gluten free whole grains*. <https://wholegrainscouncil.org/whole-grains-101/whats-whole-grain-refined-grain/gluten-free-whole-grains>



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